



29th May 2017

ASX Announcement

Predictive Discovery Limited is a gold exploration company with strong technical capabilities focused on its advanced gold exploration projects in West Africa.

ASX: PDI

Issued Capital: 163 million shares

Share Price: 8.5 cents

Market Capitalisation: \$13.9M

Directors

Phillip Jackson
Non-Exec Chairman

Paul Roberts
Managing Director

David Kelly
Non-Executive Director

30m at 8.3 g/t Au from Boundiali, Cote D'Ivoire

Predictive Discovery Limited (ASX: PDI) is pleased to announce assay results from the five un-reported diamond drill holes at the Nyangboue prospect, Boundiali Project, one of the Company's joint ventured exploration permits with Toro Gold Limited in Cote D'Ivoire.

- Drill results included:
 - **NDC007: 30m at 8.3g/t Au** from 39m, within a broader mineralised interval of **90m averaging 3.2g/t Au**.
 - **NDC006: 6m at 2.4g/t Au from 33m**, giving more evidence of a separate parallel zone of mineralisation west of the main zone.
- RC drilling of the Southern Nyangboue and the Gbemou soil anomalies, both also on the Boundiali permit, is still in progress.

Mr Paul Roberts, Predictive's Managing Director said: *"These results confirm that this gold mineralised system can produce very impressive grades over substantial widths. We are now awaiting with great interest the outcomes of the current RC drilling program on the two, nearby gold-in-soil anomalies."*

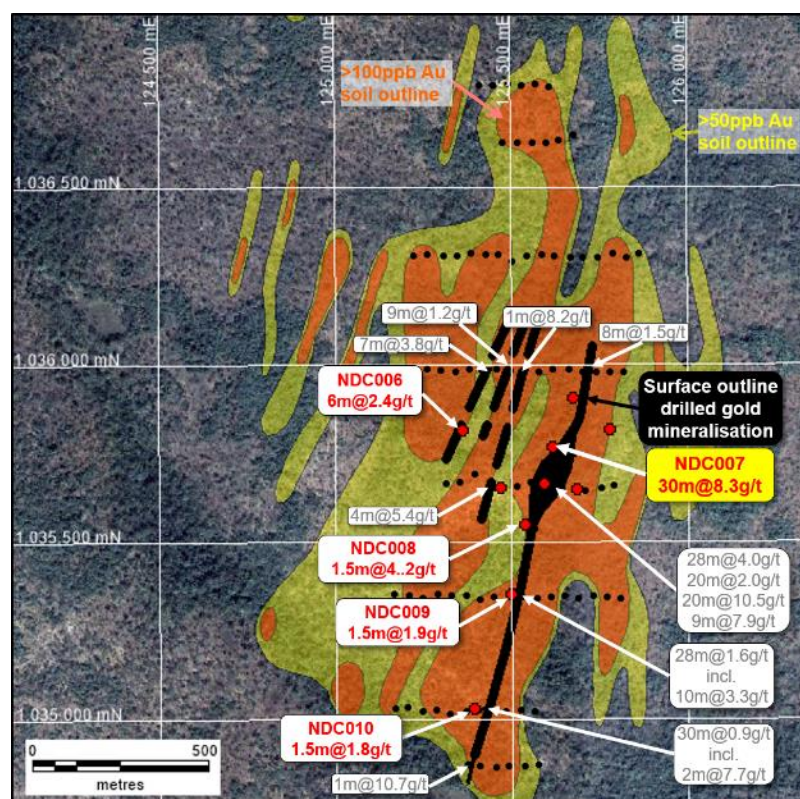


Figure 1: New diamond drill (red) and earlier RC drill hole results (grey) on a gold-in-soil geochemical contour plan (reported to the ASX on 23/2/16) in the southern 2km portion of the Nyangboue Prospect. Gold geochemical contours are superimposed on satellite imagery. RC drill results were reported to the ASX on 23/6/16, 25/7/16, 8/8/16, 12/9/16 and 13/10/16.

INTRODUCTION

The Boundiali permit is located within a very well mineralised greenstone belt which includes the large operating Tongon and Syama gold mines in Cote D'Ivoire and Mali respectively (Figure 2). The southern part of this belt has had little exploration to date and represents a first-class opportunity to make new large gold discoveries.

Predictive was granted the Boundiali permit in January 2014. The Company's first exploration program on the permit was a BLEG stream sediment survey (ASX release dated 4/8/14) which obtained a series of strong stream sediment anomalies, the best of which, a 24ppb Au anomaly, lies downstream of the Nyangboue gold mineralised zone intersected in the 2016 RC drilling program.

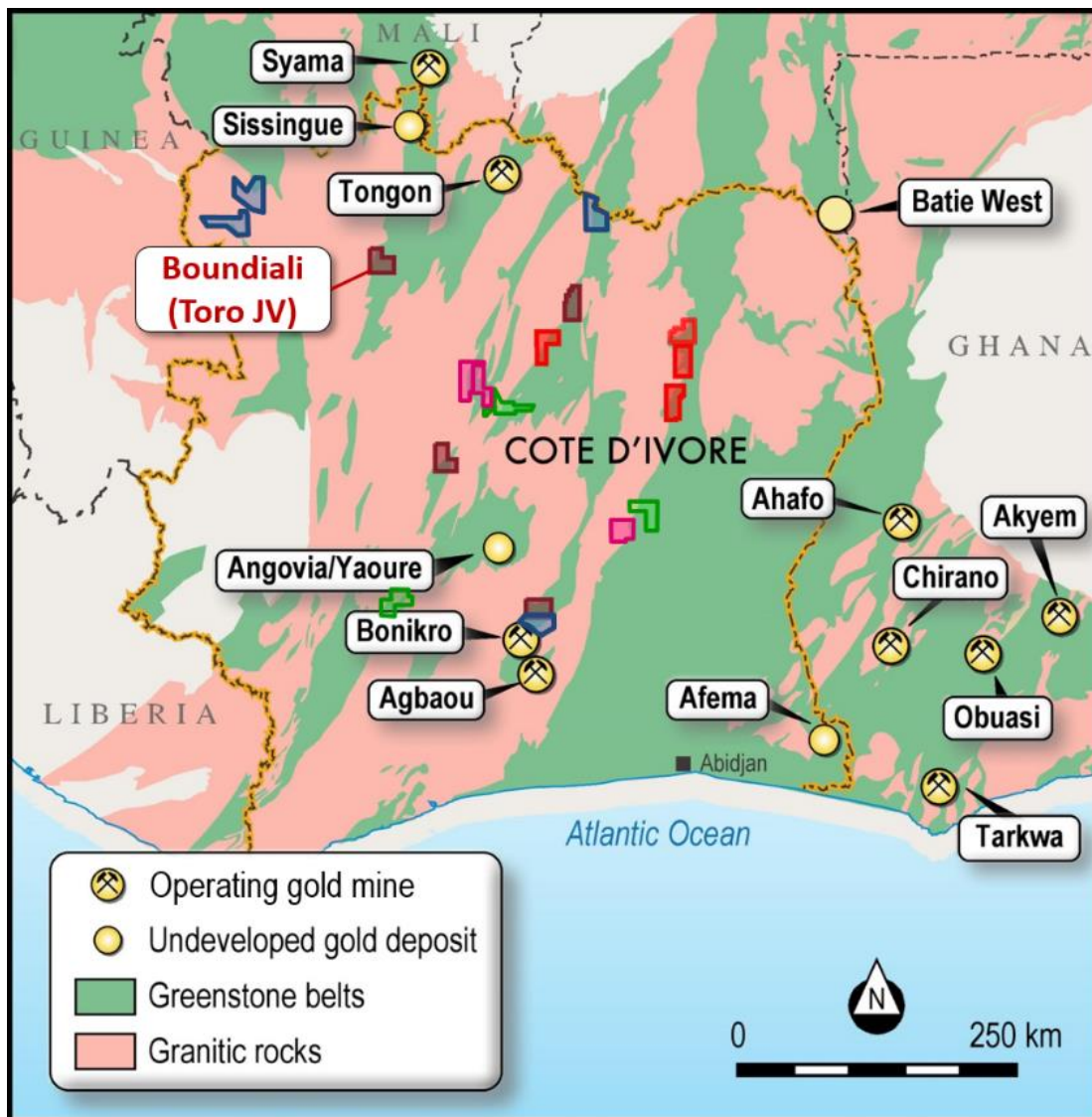


Figure 2: Locality map showing the location of Boundiali along with the other initial Toro JV permits (in brown), the GIV JV permits/permit applications (in blue), permits/applications covered by PDI's agreement with XMI SARL over the Bobosso Project (red), the recent, wholly owned Ivoirian Resources SARL permit applications (in green) and the recent, optioned Sika Resources SARL permit applications (in magenta).

Predictive is in joint venture with Toro Gold Limited (**Toro**), a UK-based company, on six granted permits and two permit applications in Cote D'Ivoire, including Boundiali (Figure 2). The Toro Joint Venture operates through Predictive Discovery Limited's subsidiary, Predictive Cote D'Ivoire SARL (**Predictive CI**) of which Predictive now holds 49%. Toro has been earning a further 14% of Predictive CI by spending US\$2.5 million, to lift its equity to 65%. The Company has recently received formal notification from Toro that it has completed the required expenditure and has therefore earned 65%. Predictive will contribute 35% of the ongoing expenditure after completion of an audit of those expenses, which will take place this week.

NYANGBOUE PROSPECT

RC drilling on the Nyangboue Prospect in 2016 obtained a series of highly encouraging intercepts (announced to the ASX on 23/6/16, 25/7/16, 8/8/16, 12/9/16 and 13/10/16) including:

- BRC003 - **28m at 4.04g/t Au** from 3m, including **1m at 49.7g/t Au**
- BRC004 - **20m at 1.97g/t Au** from 0m
- BRC004 - **14m at 5.51g/t Au** from 32m, including **1m at 31.6g/t Au**
- BRC004BIS (twin hole) – **20m at 10.45g/t Au** from 38m including **1m at 145.5g/t Au**
- BRC006 – **9m at 7.9 g/t Au** from 99m including **1m at 44.7g/t Au**
- BRC023 – **7m at 3.8g/t Au** from 33m including **1m at 11.3g/t Au**
- BRC048 – **28m at 1.55g/t Au** from 1m including **1m at 27.4g/t Au**
- BRC010 – **30m at 0.92g/t Au** from 14m including **2m at 7.68g/t Au**

Diamond Drilling

A 1,658m diamond drilling program was completed during the March Quarter. Ten holes were drilled, most of which were designed to test the central section of the gold mineralised zone encountered in the 2016 RC drill program (Figure 1). The objectives of the program were to:

- obtain orientated core within the mineralised zone to understand the geological controls on gold mineralisation encountered in the earlier RC drill program, and
- test several geophysical and geochemical targets.

The diamond drilling was carried out by Energold and the core samples were assayed by ALS at Loughreagh in Ireland. Additional details about the program are provided in Table 1.

Results of the first five holes were reported on 17th May 2017. A table of the drill results announced today at a 0.5g/t Au cut-off grade is as follows:

Hole No.	Depth from (m)	Down-hole interval (m) ¹	Au (g/t) at 0.5g/t Au cut-off grade ²	Comments
NDC006	33	6	2.36	
NDC007	13.5	3	1.96	All forming a broad mineralised zone of 90m at 3.16g/t Au from 13.5m. The 30m intercept includes 1.5m at 56.9g/t Au and 4.5m at 26.5g/t Au . Based on the cross-sectional interpretation (Figure 3), the 30m intercept has a true width of 13.3m and the 90m intercept of 40m.
NDC007	22.5	1.5	4.69	
NDC007	39	30	8.30	
NDC007	85.5	1.5	4.25	
NDC007	93	3	0.67	
NDC007	102	1.5	5.11	
NDC008	0	1.5	1.17	
NDC008	12	1.5	4.22	
NDC008	28.5	1.5	0.84	
NDC008	46.5	1.5	3.40	
NDC008	64.5	1.5	1.22	
NDC009	0	1.5	0.85	
NDC009	57	1.5	1.88	
NDC010	19.5	4.5	0.58	
NDC010	51	1.5	0.68	
NDC010	60	1.5	0.90	
NDC010	64.5	1.5	0.94	
NDC010	79.5	1.5	0.67	
NDC010	108	1.5	1.76	

Holes NDC007-010 were drilled in an east-south-east direction and were designed to cross cut north-west dipping gold mineralised veins observed in the first core holes at approximately right angles. In so doing, they also tested the (steeply east dipping) mineralised shear zone at an acute angle (see Figure 3). As reported previously, there is visible gold in the mineralised quartz veins and drilling in this direction may have exacerbated the grade variability (“nugget effect” – see below) that results from having relatively coarse gold. Thus, in the case of hole NDC007, we have obtained an exceptional result. The three holes to the south, however, produced results lower in grade than the earlier nearby RC holes, which may reflect the same “nugget effect” grade variability but on the down-side.

Other geological observations drawn from the entire diamond drilling are as follows:

- The gold mineralisation appears to be concentrated on or near a regional contact between a more massive deformed conglomerate to the west and interbedded shales, siltstones and sandstones to the east.
- Oriented core shows that the mineralised rocks are sheared with the foliation (or shear) orientation being NNE (strike) with a steep dip to the east. The gold in soil geochemical anomaly is also orientated NNE which suggests that the primary control on gold mineralisation is the shearing, especially in the area near the regional sheared contact between coarser and finer grained sediments.

- Visible gold is present within or on the contact of thin quartz veins, a few of which are folded, and which generally dip moderately to the west i.e. cross cutting the shear orientation. The veins in which gold is observed are typically quite thin, up to a few centimetres wide.
- As with most mineralised systems containing visible gold, standard fire assay gold methods have generated quite variable results, a phenomenon known as the “nugget effect”. Check analyses with different methods (e.g. screen fire assays) are required and planned.
- The mineralised zones also contain disseminated sulphides (pyrite, pyrrhotite and arsenopyrite) oriented parallel to the shear orientation and some of the gold may be associated with them.

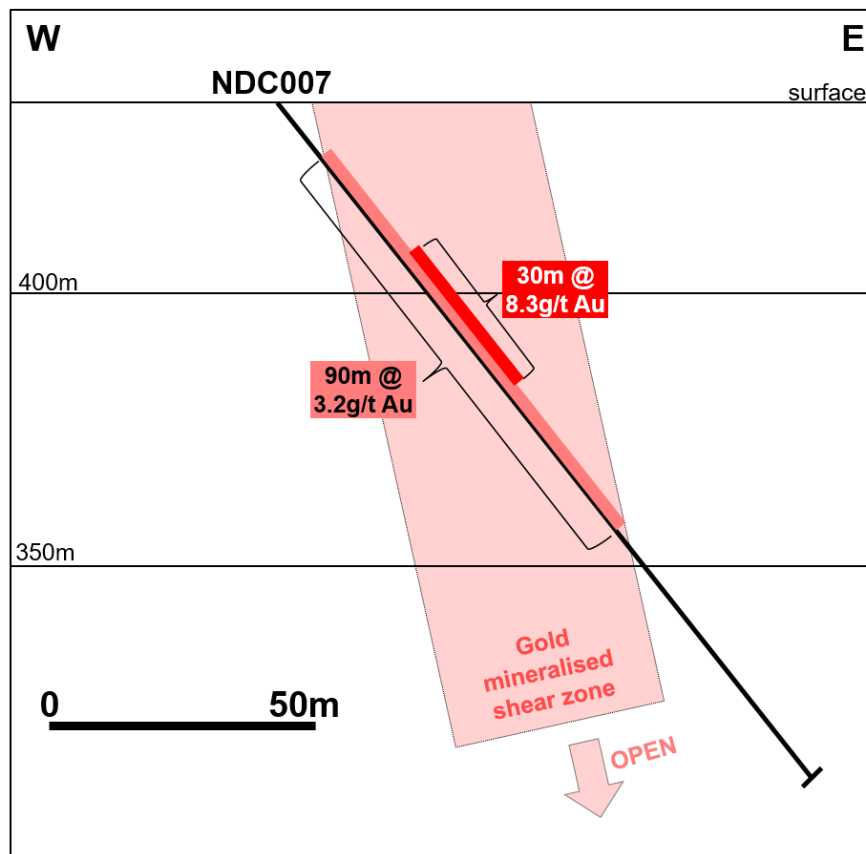


Figure 3: Cross-section through drill hole NDC007, showing inferred dip of gold mineralised zone based on drill core and nearest cross section to the south (see ASX release dated 17/5/17).

Forward Work Program

A 3,000m RC drill program to test the southern and western gold-in-soil anomalies reported previously is now nearing completion. These two anomalies are now known as the Nyangboue South and Gbemou anomalies respectively (Figure 4).

Once the results of the RC program are received, the joint venture will consider timing for an infill drilling program as the next step towards estimating ore resources on the Boundiali permit.

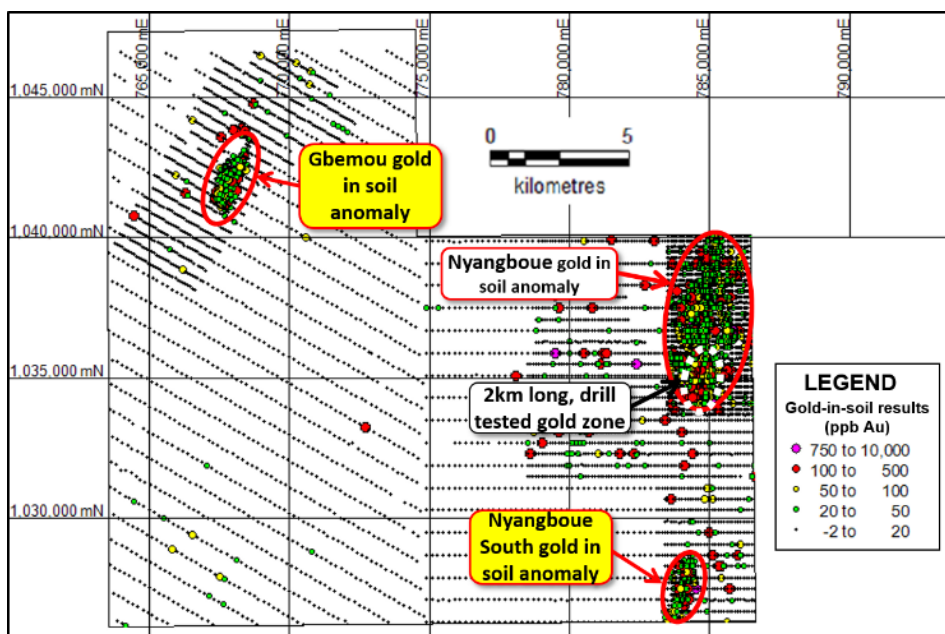


Figure 5: Toro Gold soil sampling grid covering the entire Boundiali exploration permit (results reported to the ASX on 20/10/15 and 23/3/16). The two RC drilling target areas are highlighted in yellow.

**TABLE 1 – DRILL RESULTS – TORO BOUNDIALI DIAMOND
DRILL PROGRAM (NYANGBOUE PROSPECT)**

Hole No.	UTM 29N Easting	UTM 29N Northing	RL (m)	Hole depth (m)	Hole dip (°)	Azimuth (°)	Depth from (m)	Down-hole interval (m) ¹	Au (g/t) at 0.5g/t Au cut-off grade ²	Comments
NDC006	784495	1035045	421	107.65	-60	225	33	6	2.36	
NDC007	784748	1035004	435	160.3	-50	110	13.5	3	1.96	All forming a broad mineralised zone of 90m at 3.16g/t Au from 13.5m. Based on the cross-sectional interpretation, the 30m intercept has a true width of 13.3m and the 90m intercept of 40m. Weathering extends to 70m down-hole, deeper than in nearby holes.
NDC007	784748	1035004	435	160.3	-50	110	22.5	1.5	4.69	
NDC007	784748	1035004	435	160.3	-50	110	39	30	8.30	
NDC007	784748	1035004	435	160.3	-50	110	85.5	1.5	4.25	
NDC007	784748	1035004	435	160.3	-50	110	93	3	0.67	
NDC007	784748	1035004	435	160.3	-50	110	102	1.5	5.11	
NDC008	784676	1034782	418	145.95	-50	110	0	1.5	1.17	
NDC008	784676	1034782	418	145.95	-50	110	12	1.5	4.22	
NDC008	784676	1034782	418	145.95	-50	110	28.5	1.5	0.84	
NDC008	784676	1034782	418	145.95	-50	110	46.5	1.5	3.40	
NDC008	784676	1034782	418	145.95	-50	110	64.5	1.5	1.22	
NDC009	784638	1034586	412	158.4	-50	110	0	1.5	0.85	

NDC009	784638	1034586	412	158.4	-50	110	57	1.5	1.88	
NDC010	784540	1034264	406	148.3	-50	110	19.5	4.5	0.58	
NDC010	784540	1034264	406	148.3	-50	110	51	1.5	0.68	
NDC010	784540	1034264	406	148.3	-50	110	60	1.5	0.90	
NDC010	784540	1034264	406	148.3	-50	110	64.5	1.5	0.94	
NDC010	784540	1034264	406	148.3	-50	110	79.5	1.5	0.67	
NDC010	784540	1034264	406	148.3	-50	110	108	1.5	1.76	
NDC010	784540	1034264	406	148.3	-50	110	127.5	1.5	1.11	

¹True widths generally not reported because the orientation of the gold mineralisation is not yet properly understood (gold values are controlled both by the east-dipping shearing and west-dipping quartz veins. An estimate based on the interpretative cross section is given for Hole NDC007).

² Minimum grade x width interval reported of 1 g/t x m. Maximum down-hole internal waste of 3.0m apart from the broader mineralised interval reported in Comments column. All assayed in 1.5m intervals.

Section 1: Sampling Techniques and Data		
Criteria	JORC Code Explanation	Comments
Sampling Technique	<p>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report.</p> <p>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg</p>	<p>All of the sampling described in Table 1 refers to diamond drill holes.</p> <p>A representative subsample of the core was obtained by splitting or cutting the core lengthways.</p> <p>The assayed drill samples are judged to be representative of the rock being drilled because representative sub-sampling of the diamond core samples was achieved.</p>

	submarine nodules) may warrant disclosure of detailed information.	
Drilling	Drill type (eg core, reverse circulation, open- hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc).	The drilling was carried out by the core drilling method.
Drill Sample Recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Core recovery was assessed by measurement of recovered core. The Toro site geologists report that recoveries are consistently good.
Logging	Whether core and chip samples have been geologically and geotechnical logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean/Trench, channel, etc) photography. The total length and percentage of the relevant intersections logged.	Logging of diamond drill holes records lithology, mineralogy, mineralisation, alteration, structure, weathering and other features of the samples. Logging of sulphide mineralization and veining is quantitative. All holes were logged in full. No judgement has yet been made by independent qualified consultants on whether the geological and geotechnical logging has been sufficient to support Mineral Resource estimation, mining and metallurgical studies.
Sub-Sampling Technique and Sample Preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether rifled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample	The core was cut in half lengthways. The sampled material is considered to be representative of the samples as a whole.

	sizes are appropriate to the grain size of the material being sampled.	
Quality of Assay Data and Laboratory Tests	<p>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</p> <p>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</p> <p>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</p>	<p>All samples reported in this release were assayed for gold by 50g fire assay at the ALS laboratory in Loughrea in Ireland. High grade samples were checked at the laboratory by gravimetric means.</p> <p>At the lab, regular assay repeats, lab standards, checks and blanks were inserted and analysed.</p> <p>Unlabelled standards (Certified Reference Materials), blanks and duplicate samples were also inserted by Toro personnel on site at Boundiali.</p> <p>Samples are prepared at Toro's sample preparation laboratory at Mako in Senegal.</p>
Verification of Sampling and Assaying	<p>The verification of significant intersections by either independent or alternative company personnel.</p> <p>The use of twinned holes</p> <p>The verification of significant intersections by either independent or alternative company personnel. Discuss any adjustment to assay data</p>	<p>One RC hole was twinned (BRC004) previously but no twinning was undertaken in this program.</p> <p>Field data collection was undertaken by Toro Gold geologists and supervised by Toro Gold management.</p>
Location of Data points	<p>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</p> <p>Specification of the grid system used Quality and adequacy of topographic control</p>	<p>Collar positions were located using a hand held GPS with a location error of +/-3m.</p> <p>Collar coordinates listed in the table are for the WGS84 datum, Zone 29 North.</p>
Data Spacing and Distribution	<p>Data spacing for reporting of Exploration Results</p> <p>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</p> <p>Whether sample compositing has been applied</p>	<p>The holes reported here were drilled as shown on the included locality plan.</p> <p>No judgement has yet been made by an independent qualified consultant on whether the drill density is sufficient to calculate a Mineral Resource.</p> <p>The samples were not composited.</p>

Orientation of Data in Relation to Geological Structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	All drill holes reported here were drilled approximately at right angles to the anticipated strike of the gold mineralisation.
Sample Security	The measures taken to ensure sample security	The core samples are currently stored securely at Toro Gold's compound in the town of Boundiali.
Audits or Reviews	The results of any audits or reviews of sampling techniques and data	No audits or reviews of sampling techniques and data have been carried out given the reconnaissance nature of this drill program.
Section 2 Reporting of Exploration Results		
Mineral Tenement and Land Tenure Status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Boundiali exploration permit was granted to PDI Cote D'Ivoire SARL in January 2014. Toro Gold Limited may earn a 65%% interest in PDI Cote D'Ivoire SARL by spending US\$3.5 million. Subject to an audit, this expenditure has now been achieved.
Exploration Done by Other Parties	Acknowledgment and appraisal of exploration by other parties.	PDI is not aware of any effective gold exploration over the Boundiali permit prior to PDI's initial work, however historic records are incomplete at the Cote D'Ivoire government geological agency.
Geology	Deposit type, geological setting and style of mineralisation.	The geology of the Boundiali permit consists of granite, metasediments (including conglomerates), mafic volcanics and intrusives.
Drill Hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length • If the exclusion of this information is justified on the basis that the 	All of the required data is provided in Table 1 (above).

	<p>information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</p>	
Data Aggregation Methods	<p>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</p> <p>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</p> <p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	<p>All diamond core samples were collected and assayed in 1.5m intervals.</p> <p>No top cuts have been applied to the drill results.</p> <p>Up to 1.5m (down-hole) of internal waste is included except in the reported broader mineralised intervals were variable but sometimes large amount of internal waste were included.</p> <p>Mineralised intervals are reported on a weighted average basis.</p>
Relationship Between Mineralisation Widths and Intercept Lengths	<p>These relationships are particularly important in the reporting of Exploration Results</p> <p>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</p>	<p>True widths have generally not been estimated as the gold appears to occur both in east dipping shearing and west-dipping quartz veins so it is difficult to determine at this stage, how to calculate true width. Some petrographic studies may help resolve this question.</p>
Diagrams	<p>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</p>	<p>An appropriate plan and cross section showing the location of the drill holes are included in this document.</p>
Balanced Reporting	<p>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</p>	<p>All intercepts containing grades above 0.5g/t Au and at least 1g/t x m with a maximum thickness of internal waste of 1.5m are reported in this release.</p>
Other Substantive Exploration Data	<p>Other exploration data, if meaningful and material, should be reported including (but not limited</p>	<p>All relevant exploration data is either reported in this release or has been reported previously and is referred to in the release.</p>

	to); geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further Work	<p>The nature and scale of planned further work (eg tests for lateral extensions or large scale step out drilling.</p> <p>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</p>	RC drilling on nearby soil geochemical anomalies is now in progress.

Predictive Discovery Limited (PDI) was established in late 2007 and listed on the ASX in December 2010. The Company is focused on exploration for gold in West Africa. The Company operates in Burkina Faso, West Africa where it has assembled a substantial regional ground position covering 1,200km² and is exploring for large, open-pittable gold deposits. Exploration in eastern Burkina Faso has yielded a large portfolio of exciting gold prospects, including the high grade Bongou gold deposit on which a resource estimate was calculated in September 2014. PDI also has interests in a large portfolio of permits and permit applications in Côte D'Ivoire covering a total area of over 6,000 km².

Competent Persons Statement

The exploration results reported herein, insofar as they relate to mineralisation are based on information compiled by Mr Paul Roberts (Fellow of the Australian Institute of Geoscientists). Mr Roberts is a full time employee of the company and has sufficient experience relevant to the style of mineralisation and type of deposits being considered to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Roberts consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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